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Education and Economic Development during the Modernization Period: A Comparison between Thailand and Japan

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Abstract

This paper tries to explain the difference in economic development between the reign of King Rama V (1868–1910) and that of the Emperor Meiji (1868–1912) in terms of the difference in the state of education. Before being forced to open the country by Western powers, the overwhelming majority of native Thais were farmers growing rice using traditional method mainly for internal consumption. Most Thai commoners received no education, but those who did, received theirs from the monks who were more interested in teaching morality than reading and writing skills. The situation was a contrast to Japan where the samurai received education from government schools, whereas many commoners did from private schools. The exchange economy of Japan was more advanced due to the emergence of big cities. Both countries sought modernization as a means to protect themselves from being colonized by Western powers. The new Japanese leaders made serious efforts in establishing a formal education system by first emphasizing basic education for the mass and later developing secondary and tertiary education because they felt that skilled and professional manpower was indispensable for national development and industrialization. The Thai leaders faced a more pressing problem of centralizing political power for security reason than developing educational system. As a consequence, the Japanese economy reached the take-off stage within the Meiji era whereas Thailand, although it progressed from self sufficient to a market economy, continued to depend heavily on rice production.

I Introduction

Thailand and Japan had many things in common before and at the beginning of the modernization period. Both were agricultural economies growing mainly rice; both were relatively closed to Western nations, but and were forced to open their countries by Western powers more or less around the same time (Thailand by England in 1855, Japan by the United States in 1854); and both made great efforts in modernizing their institutions for fear of being colonized, in Thailand during the reign of King Chulalongkorn (1868–1910) and in Japan during the reign of Emperor Meiji (1868–1912).

Yet, today Thailand and Japan are widely different. Economically, Japan is now ranked among the great economic powers, whereas Thailand is still considered a developing

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country. The Japanese level of industrialization has already surpassed that of the countries which used to be her models at the time of modernization. By contrast, the present industrialization effort in Thailand is relying heavily on foreign, capital and technology, especially from Japan.

Many factors are accountable for such divergence. This study focuses on the human resource that is widely regarded as the most important factor for economic development. It proposes that the difference in the quality of human resource explains the difference in the stages of economic development. This difference in human quality is due to the difference in investment in education. Education is found in many studies to be a significant factor contributing to the growth of national output [see for example, Machlup 1970; Denison 1985]. Increase in national output makes it possible for both the government and individuals to invest more in education, which in turn further promotes economic growth. Basing on this conceptual framework, this study investigates the historical experiences of Thailand and Japan.

II The Conditions before the Opening of the Countries

In order to understand the need to modernize the countries felt by Thai and Japanese leaders, we must first understand the socio-economic situations before the coming of Western powers. In the case of Thailand, we have to look at the early Ratanakosin period, which inherits almost all the essential features of the late Ayudhaya period. The period to be considered for Japan is the Tokugawa period.

A. *Social Condition*

The social structure of the two countries from the beginning of the 17th century through the mid 19th century was that of feudal type. The system in Thailand was the so-called "Sakdina" where the upper class of the society was ranked by the number of land (*na*) granted by the king. The high-ranking officials were appointed by the king who had absolute power over the kingdom. However, their titles and associated privileges could not, in principle, be passed on to their offspring. In the case of Japan the ultimate power of government was in the hands of the Shogun, not the emperor who reigned but did not rule. There were around 280 daimyos who ruled their own domains, *han*, under the consent of the Shogun, with considerable autonomy. The titles and all the associated privileges of the Shogun, daimyo, and their entourages (the samurai) were, by custom, to be inherited by their eldest sons. That is, the ruling class in Japan was succeeded by blood, not appointed as in Thailand. The existence of the domains and their autonomy provided a foundation for strong local government and local leadership. Compared to Japan, Thailand was a more centralized country.

The commoners in Thailand consisted of *phrai*, the ordinary people or free laborers, and *thas*, people who sold themselves or were sold by their families to be slaves. The commoners must pay tax, either in the form of labor, which was common, or in money or some natural products depending on their locality of residence. The government requirement for labor ser-

vice changed with the passage of time. During the reign of King Rama I, four months of labor was required of *phrai* yearly, but from King Rama II until the time of its abolition in the reign of King Rama V, labor conscription was reduced to three months a year [Kachorn Sukhaphanich 1982: 37–40]. Every *phrai* must register with an official, *mul nai*, assigned to control the *phrai*. They were neither allowed to travel in the kingdom nor accept any kind of employment without the consent of their *mul nai*. Each *mul nai* was given a certain number of *phrai* in accordance to his rank. His responsibility was to supply *phrai* as soldiers in time of war, and to recruit them for various kinds of public work in time of peace. The relationship between *mul nai* and *phrai* was that of a patron-client type [Akin 1984].

While the common people in Thailand tied themselves to the assigned *mul nai*, the majority of common people in Japan were farmers who were tied to their assigned pieces of land. Land was considered a valuable resource because of its relatively scarcity in Japan. The reverse condition was true in Thailand where land was abundant compared to labor. The samurai class was removed from land and made to live in a castle-town, together with the other two classes of commoners, artisans and merchants, who were socially ranked below the farmers. The samurai made their living on a fixed amount of salary paid in rice granted by their lord. They were military men by profession, but performed the duty of government officials in time of peace.

B. *Economic Conditions*

The social structure of a country reflects its economic condition. In Thailand, over 90 percent of people were engaged in rice farming. Farming communities were small and scattered around the kingdom. Due to lack of communications, each community was more or less self-sufficient. Most farmers cultivated enough rice for their own consumption and had some surplus to pay for rent, which was relatively low. The remaining was used for religious functions as well as means of exchange for some necessities mostly on barter basis. The use of money was confined to the capital and some large communities. There was not much incentive for the farmers to increase rice production since it was considered by the government as a strategic commodity and thus was not allowed to export except to China, a far-away country [Wuttichai 1983: 10]. The revenue of the Thai government, since the early Ratanakosin period up to King Rama III, came mainly from trading with the neighboring countries and China by sea. Most of the commodities the government sold to foreign merchants consisted of natural products, which were received as tax payment from people. Imported goods were mostly luxuries consumed by royal family and high-ranking officials. From King Rama III up to King Rama IV, state revenue came mainly from taxes, the collection of which was granted as a concession to tax farmers. The system of tax farming was abolished in the reign of King Rama V and replaced in 1873 by the state internal revenue system.

The method of rice farming in Thailand depended heavily on the mercy of nature. There had not been any changes in rice farming technique in Thailand since the Ayudhaya period until perhaps the middle of the 20th century. In contrast, the rice farming technique in Japan,

though not being mechanized due to relatively small size plot, had shown some signs of progress since the Tokugawa period. There were improvements in seed selection, farm equipment and an increase use of fertilizer and insecticide. New agricultural technology was sometimes spread by farmers themselves through books [Smith 1965: 87–100]. There was also investment in irrigation by local communities. Since agriculture was the main economic sector, the farmers bore the major burden of government taxation, which was paid in the form of rice. The tax rate was as high as 60 percent in the first century of the Tokugawa period. But in the 18th century the tax rate declined to about 33 percent of output as the government reduced the tax rate on rice somewhat under the pressure of peasant uprisings, and there was also a rise in commercial production on which there was virtually no tax increase [Sato 1991: 37–80]. The improvement in transportation as a result of the *sankin kotai* system together with the growth of big cities like Edo, Osaka, and Kyoto created markets for agricultural products other than rice. Farmers responded to these new opportunities by producing commercial crops such as cotton, silk, tea, etc. This led to the creation of cottage industries such as cotton weaving and silk reeling in the villages. Some farmers grew to be rich landlords by accumulating capital and investing in various ventures. The rural sector of Tokugawa was more dynamic than that of Thailand.

The gap in Thai society between farmers and officials was filled by Chinese immigrants. Chinese immigrants had been coming into Thailand since the Ayudhaya period, but the number increased sharply during the reigns of King Rama III and King Rama IV as a consequence of famine and political suppression in China. The earlier Chinese immigrants had no intention to stay forever; they wanted to accumulate savings to send back to their families and return home eventually [Skinner 1954: 119]. The Chinese were not subjected to the same regulations as *phrai* and therefore were free to move around the kingdom. They performed almost all kinds of economic activities such as construction, trading, rice milling, mining, vegetable growing, animal husbandry, sugar milling, and tax farming. The native Thais were left only with rice growing since the Chinese, finding that it did not pay to do so, were not in favour to do it. Before King Rama VI, the immigration of Chinese was encouraged since the king considered it beneficial to have more people working in land-abundant Thailand. Many well-to-do Chinese merchants were appointed as tax farmers to collect taxes on certain kinds of economic activities. The Thai kings were interested in absorbing them into the country by granting them official ranks.

In contrast, the merchants in Japan were native Japanese. Although they ranked at the bottom of society, their economic role was indispensable. The lord as well as the samurai had to rely on their services for selling their tax rice and buying other consumer goods. The system of *sankin kotai* and the existence of castle-towns and other big cities helped to develop transportation and to promote inter-regional as well as intra-regional trades. As market opportunities expanded, commercial systems developed and various kinds of commercial instruments were created to meet the growth of transaction volume. Many business families like Mitsui, Sumitomo and Konoike who became prominent in the Meiji period had their roots in the

Tokugawa period. They were engaged in such businesses as *sake* brewery, shipping, mining, trading, etc. The most profitable business activity was money-changing. This business later on diversified to include various financial functions performed by a modern bank. The big merchants, like the rich landlords in rural areas, invested their profits in business expansion. Besides, due to the *ie* system, which governed all family households from the Tokugawa period until the Second World War, all property was considered belonging solely to the *ie* and could not be divided up [Nakane 1991: 217]. This helped to safeguard family property and hence promoted capital accumulation.

It can be clearly seen at this point that the Thai economy and the Japanese economy were at different stages of development even before the opening of these countries to Western nations. If human capital theorists were correct, educational development in these two countries must have diverged. We shall now focus on to the conditions of education prevailing in the two countries at that time.

C. *Educational Condition*

The perception of the role of the government in education was different in the two countries. In Thailand, until the reign of King Rama V, the government thought that it was the role of the monastery (*wat*) to educate people. The education that parents expected from a monk was not only to include some reading, writing, and perhaps arithmetic, but to attach also greater importance to moral teaching. The government took responsibility for providing financial support for the education of monks. Thai parents, commoners as well as noblemen, normally sent their children to local monasteries with which they had had some association with. However, for commoners' children, only a few were lucky enough to receive education. Most of them stayed at home helping their parents at work or doing household chores [Sathien Koses 1978: 450]. Apart from the monasteries, education was also instructed in palaces and some scholars' houses. However, the monasteries remained the center of learning (arts, medicine, astronomy, law, and philosophy). Because of Thai Buddhist custom which did not permit girls to stay close to a monk, education for girls was mostly done in their homes, or in the palaces for the daughters of noble families. For vocational training, most children received it from their parents or their acquaintances. Most of the vocational skills were considered family secrets and hardly made known to outsiders. The children of officials had better chances to become officials, which was considered the best career at that time, through their fathers' connections. Social mobility through education was very rare, though not impossible [Piyachat 1983: 43–45]. The child of a farmer had little chance to become literate even though he might be lucky enough to be sent to study with a monk in the neighborhood temple. The monks in remote rural areas were not as highly educated as those in cities; and because of a lack of reading materials due to the unavailability of printing technology at that time, the reading skill they obtained at the temple was easily lost.

There were, however, at least two pieces of evidence showing some concern of the government regarding the education of ordinary people. The first was instruction on reading and

writing given to the children of commoners at an almshouse in the royal palace built during the reign of King Rama II. Later, during the reign of King Rama IV, it was terminated [Swat 1969: 64–65]. The second one was the inscription on various subject matters such as medicine, Buddhism, literatures, etc. on the walls and columns of Wat Phra Jetubon, which was done under the order of King Rama III with the purpose to educate people. During his reign, a new set of Thai textbooks were written, in addition to the only existing one, the *Chindamanee* written in 1672. The missionaries, mostly from the United States, arrived in Bangkok during the reign of Rama III and started to organize schools, but with little success. More missionary schools were set up in the reign of King Rama IV, but most students were children of Chinese immigrants. Thai parents did not generally allow their children to attend the missionary schools for fear of being Christianized. However, by the end of King Rama III's reign, there emerged a small group of young princes and noblemen who showed keen interest in Western studies. This group included the future King, King Rama IV, and Luang Nai Sitthi, who played a very important role in the Thai political scene in the reign of King Rama V.

The Japanese government, both central and domain, perceived its role in education differently. The Shogunate took the initiative in setting up schools for samurai children in Edo, and soon, many domain governments followed the example. Around the end of the Tokugawa era, almost all domains had established schools where samurai children could pursue education and military art. The administration and the finance of such schools were assumed by the domain governments [Kaigo 1968: 34].

Confucianism was adopted as the official ideology. It prescribed a pattern of ethical conduct among people in a fixed hierarchy. Its emphasis was on the duty toward the people of higher hierarchy, not on the rights. The Confucian ideals included filial piety, loyalty, submission to authority, and maintenance of social order [Anderson 1975: 5]. Thus Confucian books were the core of curriculum in government schools. They were useful to inculcate loyalty among retainers toward their lords. Education for non-samurai masses, however, was not considered a governmental responsibility. Different types of schools developed, partly though charity, in response to an economic demand. These schools were normally called *terakoya* (temple schools) in western Japan or *tenarai-sho* (writing schools) in Edo [Dore 1984: 252]. *Terakoya* teachers were drawn from Buddhist and Shinto priests, unemployed samurai, wealthy retired farmers, and some former court women. Tuition fee was low since the relation between pupils and parents on the one hand and teachers on the other was more than simply an economic one. Learning was too respected to be treated as a commodity. Many people taught because they felt it was their duty to pass on their knowledge to the next generation as well as to be useful to society [*ibid.*: 260]. These schools taught not only how to read simple Confucian books on morality, but also such subjects as the use of abacus and writing business letters. There were many hundreds of textbooks which the teachers could select to match the need of their students [*ibid.*: 276].

As to vocational training for commoners, Japan in the Tokugawa era had a highly developed system of apprenticeship outside the family. The training was normally provided in large

commercial houses and workshops of some skilled craftsmen. During apprenticeship, the youth had to stay in his master's house and was assigned certain responsibility which grew with his length of training. Absolute obedience was required of him, discipline and punishment were severe [Passin 1982: 42–43]. This might be considered an earlier model of on-the-job training which became common in modern business companies.

Besides the schools founded by the Shogunate and domain governments and the *terakoya*, there were a large number of private academies, *shijuku*. These academies ranged from elementary schools, offering simple literacy training, to higher institutions offering advanced education to the graduates of domain schools as well as the sons of priests, farmers, and merchants. Most academies taught Confucianism. The subjects taught in non-Confucian schools ranged from Western studies (medicine, etc.) to "national studies" that stressed Japanese culture and history. These *shijuku* paved the way for the acceptance of Western influence in official schools as well as eased the transition to a modern merit system based on competition among the students from different social classes [Anderson 1975: 17].

Japan in the pre-modernization period thus had a large number of educated samurai and a relatively large proportion of literate population. In 1867, the last year of the Tokugawa period, there were 219 domain schools, 244 local schools (*gogaku*), and 10,299 *terakoya* [Passin 1982: 14]. Passin also estimated that approximately 40–50 percent male were literate. For the samurai class who was responsible for administration as well as for the merchant and upper artisan classes, a high level of literacy was considered a necessity. In a village, at least one head of five households which constituted the lowest administrative unit, the *gonin-gumi*, had to be literate in order to be able to pass down the official instruction to the members in his unit [*ibid.*: 48].

We can summarize our comparative discussion on education and economic development in the two countries prior to the modern period as follows.

1. Regarding education, Thai society in the early Ratanakosin period depended almost exclusively on the Buddhist monks for teaching the three R's and social morality. In the case of Japan, Confucian scholars, who were free from Buddhist influence, assumed the role of teachers. Although moral as well as other teaching subjects were based heavily on mythical explanation in Thailand, Japanese teaching was more logical. The Thai government did not consider education as its responsibility, while the Japanese government, both central and domain, set up schools to educate the samurai so that they could perform administrative functions well. This investment in the human resource proved to be very fruitful when the country entered the modern period, as could be seen from the fact that the Meiji government did not face serious shortage of skilled manpower as did King Rama V. In Japan, it was not only the ruling class, but also the commoners, farmers, artisans and merchants, not supported by the state, who founded private schools, *terakoya*, at various places through private means. At the village level, its head who was responsible for passing government instructions to the villagers was literate. No comparable example could be found in the case of Thai commoners in the capital, not to mention the rural area. More importantly, the Japanese were taught the Confu-

cian ethic, which became the moral foundation for self-disciplined, obedience to authority, and loyalty to one's group and leader. This made it easier to set up a cooperative system in business and at workplace in the following period. The Thai counterparts, in particular, the farmers, due to different cultural settings and natural environment, formed a different set of values. To Thai peasants, individual autonomy, freedom, dignity and immediate enjoyment came to be more cherished [Prasert 1981: 20]. This mental make-up was less suitable for creating a cooperative team out of the rural migrants to urban centers.

2. In view of economic development the Thai agricultural sector was more or less stagnant in terms of production technique and hence labor productivity. In contrast, the Japanese agricultural sector was dynamic in introducing new techniques and creating rural industry. The difference in the endowment of land relative to population in the two countries might provide some explanation to this. However, the difference in the level of education was another contributing factor. The spread of writings on agricultural knowledge by Japanese farmers and the systematic farm management were examples of the dynamism of the agricultural sector in Japan. It is claimed that education made farmers more receptive to change, which was also evident in the response of farmers to produce commercial crops to meet new market opportunities created by the emergence of big urban areas at that time.

The commercial system in Japan in the late Tokugawa period was more developed than in Thailand. Many new commercial papers and credit instruments were being used to facilitate transactions. Some industrial progress was made by the rural landlords who introduced cottage industry, the domain governments who encouraged craft industry and the wholesale merchants who organized the putting out system. In contrast, the economic activities of Thailand other than rice farming were in the hands of foreigners, mostly the Chinese immigrants who had no intention to stay permanently in the country. Hence, a large part of capital accumulated was sent back to their homeland. Although the Thai ruling class controlled the major part of capital, they were not keen in commercial or industrial investment. Besides, these activities were considered by them as not being prestigious.

III The Modernization Period

A. *The Arrival of Western Powers and the Conclusion of Commercial Treaties*

The geographical expansion of Western powers accelerated in the middle of the 19th century, finally affected both Thailand and Japan. In 1855, Thailand, under the reign of King Rama IV, had no choice but to conclude the commercial treaty with the British envoy, Sir John Bowring. The so-called "Bowring Treaty" aimed at removing the barriers which the Western traders faced in trading with Thailand, namely the royal monopoly of oversea trade and special privileges granted to Chinese merchants and high-ranking officials. It put into effect, among other things, a uniform 3 percent import tax on all articles with the exception of bullion and opium which were duty-free. Rice must be allowed to be exported unless there was a shortage

in the country. An export could be subjected only to one tax, either the export duty or inland transit duty. In addition, it specified the British extraterritorial right over Thai soil. Through this unequal treaty, Thailand lost her autonomy on tariffs and full legal jurisdiction over the country. After that, Thailand had to conclude similar treaties with other Western nations and even with Japan in 1898.

Japan, on the other hand, was forced by the United States to sign the Kanagawa Treaty in 1854 which subjected Japan to open its doors to foreign ships, and later in 1858, commercial treaties with the West, collectively known as "Treaties with Five Nations." The conditions of the treaties were somewhat better than those imposed on Thailand. For example, the import tariff rate was 5 percent instead of 3, and opium was not allowed to be brought into Japan. However, Japan was also forced to grant extraterritoriality to Western powers.

B. *Political Changes as a Consequence of the Treaties*

Thailand faced less obstacle than Japan in the transition to the post-treaty period. Although King Rama IV passed away suddenly in 1868 and his son, King Rama V, aged 15, was seriously ill at that time, the transition was smooth under Chao Phya Suriyawong (Chuang Bunnag) who acted as Regent until the King became 20 years old. The most serious situation was the so-called "Front Palace Incident" which extended from December 1874 to February 1875, which was a conflict between King Rama V and the Second King. The conflict is alleged to have been caused by the latter's dissatisfaction, among others, the attempt by the King to create the internal revenue system. The incident almost caused direct intervention from Western powers, but was fortunately avoided. This incidence forced the King to slow down the pace of reform until after his second coronation in 1882 when he gained full control of government.

Japan faced a more serious internal political situation after the signing of the treaties, which finally led to the fall of the Tokugawa regime and the restoration of political power to the emperor in 1868. The Japanese political leaders at that time realized that under the Tokugawa social and political structure, it was not possible to develop the country so as to cope with the threat of Western powers. Even after the Restoration, there was an disagreement among government leaders on the problem of Korea. This, together with the grievances of the samurai class who lost their social privileges such as the abolition of the right to bear swords and their stipends through a compulsorily commutation to cash or government bonds at the rates which caused a considerable loss of income, led eventually to the largest rebellion at that time known as the "Satsuma Rebellion" in 1877. The government had to spend a considerable amount of resources to suppress this uprising.

C. *The Development of a National Educational System*

1. *The Development of Primary Education*

Both the leaders of Thailand and Japan realized the importance of education in creating qualified manpower needed for the development of their countries. In Thailand, there was an acute shortage of qualified manpower to fill the positions in the central government which was

reformed by expanding the number of ministries to 12. School education in Thailand started with a militarized Corp of Pages set up by the King within the palace in 1870 for his brothers and half-brothers, his cousins and the children of his supporters [Tej 1969: 7]. After that there emerged 3 more schools for teaching the princes and the children of noble families. It was not until 1885 that the first school for commoners' children was built in Wat Mahanpharam. More schools of this type followed. According to Wyatt, in 1891/92 there were 48 schools all over the kingdom with half of them in Bangkok. Among those schools in Bangkok, 21 were housed in monasteries. Regarding students, there were 2,425 students, with 65 percent of them in Bangkok [Wyatt 1969: 387]. These schools were subsidized by the government. No tuition fee was charged and free textbooks were provided.

The Department of Education was established in 1887 under the directorship of Prince Damrong, the King's half brother. However, he was transferred to the Ministry of Interior in 1892. According to the King, for the time being, the setting up of provincial administration was more important to national survival than working on educational administration. The Ministry of Education was established in 1890 with Chao Phraya Phasakornwong (Porn Bunnag) as its first minister. Due to some internal politics, the Ministry's appropriation of national budget declined in the following years. During the entire period from 1890 to 1910, its share never exceeded 3.2 percent of total national budget (see Table 1). The government budget allocated to the Ministry of Education over the period of 1892 to 1910 was the lowest among the Ministries (see Table 2). According to Wyatt, the Minister of Education at that time had a hard time in defending the budget of his ministry.

It was not until the King himself returned from his first European tour at the end of 1897 that the process of educational reform really began. While he was abroad, he found out that many of the Thai students studying there had to stay longer due to insufficient academic background. He felt an urgent need to reform the educational system in Thailand. The big development that came out of this was an official announcement of a "Decree on the Organization of Provincial Education" in November 1898. However, provincial education was placed

Table 1 Educational Expenditures as Percentage of National Budget

	Thailand*		Japan**
	(1)	(2)	(3)
1890			8.0
1895	0.7	2.7	
1900	2.3	3.2	9.8
1905	1.6	2.7	
1910	1.6	2.2	10.2

Sources: * [Wyatt 1969: 389]
** [Ministry of Education 1963: 194]

Notes: (1) Budget of Department of Education as percent of national budget
(2) Budget of Ministry of Education as percent of national budget
(3) Educational Budget as percent of national budget

under the responsibility of Prince Wachirayan, the King's half brother who was the abbot of Wat Bowonniwet, and Prince Damrong, the Minister of Interior. The Ministry of Education was left only with the administration of education in Bangkok. Monasteries were utilized as schools and the resident monks were to be teachers. There was an impressive quantitative expansion of schools and students. In 1900/01 the number of schools in Bangkok increased by more than 129 percent and the number of pupils by 175 percent, and the number of schools and pupils in the provinces increased by more than 1,000 percent compared with 1890/91. At the end of the reign in 1910, the number of schools in Bangkok was 179 and the number of pupils was 13,933, while the corresponding numbers for the provinces were 2,936 and 70,033 respectively (see Table 3).

As to the national scheme of education, the Ministry of Education under Chao Phraya Pasakornwong made an attempt to draw up one in 1898. It covered education from preprimary level up to higher educational level. The scheme also proposed a plan to set up a university on the occasion of the King's 50th anniversary of accession to the throne. It was the most comprehensive educational scheme so far. However, it received no support from the King, hence, no action was taken. In 1902, under the new Minister of Education, Chao Phraya Wichitwongwuttikrai, another educational scheme was proposed. This scheme was said to be influenced by the Japanese educational system. It was drafted by the Thai government officials who were sent over to Japan to study the Japanese scheme. According to this scheme, education above primary level was divided into two streams, general education and special or vocational education [Wuttichai 1973: 154]. Education at primary level was still administered

Table 2 Thailand: Average Annual Expenditures of Some Ministries

(million bath)

	1892–95	1896–1900	1906–10
Ministry of Defence*	3.03	3.32	13.30
Ministry of Interior*	0.25	3.18	10.52
Ministry of Education*	0.30	0.56	1.32
Ministry of Agriculture*	0.45	0.67	2.74
Royal Expenditure**	3.75	6.15	10.37

Sources: * [Nangnoi 1975: 75, 150]
** [Ingram 1971: 192]

Table 3 Thailand: Summary of Educational Statistics

	Bangkok		Province	
	Schools	Students	Schools	Students
1885/86	19	1,504	10	510
1890/91	24	1,800	27	915
1900/01	55	4,956	348	12,258
1910/11	179	13,933	2,936	70,033

Source: [Wyatt 1969: 387–388]

by the monks, and the Ministry was to be in charge of education above that level. However, to carry out this scheme required a large amount of resources. The government was reluctant to provide such financial support. The King suggested that the Ministry followed the Japanese model by charging tuition fee at lower level of education to help finance higher education [*ibid.*: 157].

By the end of the reign of King Rama V, primary education was organized for three years. However, compulsory education still could not be promulgated. It was postponed until the reign of King Rama VI in 1921.

While Thailand faced some personal conflicts in the early phase of developing a modern education system, Japan faced the ideological conflict between the proponents of Western knowledge and those of Confucianism. The first national education order of 1872 (Gakusei) was influenced by Fukuzawa Yukichi who supported the idea of liberal Western type of education. Fukuzawa believed that the sort of studies suited the new age should be practical learning, such as three R's, rather than Chinese classics. He suggested the use of translated Western textbooks on practical subjects in schools [Simmons 1990: 25].

According to the 1872 Education System Order, education was divided into three levels, elementary, middle and university. The ordinary elementary schools constituting the foundation of the system were to be divided into upper and lower divisions. Each division was to last for four years and everyone was expected to attend. The Order proposed setting up 8 university districts, in each of which there were to be 32 middle school districts, and in each middle school district there were to be 210 elementary school districts. In principle the responsibility for providing the funds necessary for the establishment and operation of schools was to be borne by the school districts but the financial burden was ultimately to be shifted to the parents of individual pupils for tuition fees [Ministry of Education 1980: 37–42]. This new system made it particularly hard on the rural peasantry, who did not own the land they cultivated and paid a high rent. The resentment of the rural peasantry together with the samurai who lost their privileges under the new regime led to serious revolts in 1877 as explained earlier. The discontent made it necessary for the government to revise the plan and issued the new Education Ordinance of 1879 (Kyoiku-rei), which emphasized decentralization and local autonomy as suggested by the American educational advisor at that time. Schools could be more responsive to the needs and interests of local people, teacher autonomy was to be encouraged, textbooks were simplified, attendance was reduced to 16 months between the ages of 6 and 14 [Simmons 1990: 30]. However, the percentage of children attending schools declined as more freedom was allowed. Furthermore, the government was attacked by the conservatives for not paying enough emphasis on Confucian-centered moral education. In 1880, another ordinance was issued under the influence of a Confucian scholar who was serving as the Emperor's advisor. Western liberalism was then replaced by Confucian morality in the curriculum of primary and secondary schools. The Department of Education published its own series of standard textbooks on all subjects to replace the translated ones, emphasizing the themes of loyalty and filial piety. Teachers were forbidden to participate in any political activities.

When the first cabinet was formed under the new constitution, Mori Arinori was appointed as the Minister of Education. Mori emphasized education for the sake of national prosperity. The education system was divided into two streams; and the elite and the mass were separated from the beginning. The former, expected to be the leaders of the country, received a relatively liberal education and were expected to continue through the university. The latter, on the other hand, received only minimal education designed to make them able and obedient servants of the state [Nagai 1971: 73–74]. Within a few months of 1886 four new school orders were promulgated: the Elementary School Order, the Middle School Order, the Imperial University Order, and the Normal School Order. According to the new policy these four types of schools were to become the core of the educational system.

The 1886 Elementary School Order divided elementary education into two levels, ordinary and higher, with the length of each level set at four years. Attendance at an ordinary elementary school was compulsory.[1] It was not until 1900 that the four year compulsory education became free of charge. It was extended to six years in 1907. The enrollment ratio in 1910 was as high as 98.14 percent [Japanese National Commission for Unesco 1966: 52]. Japan certainly made a considerable progress in mass education within the reign of the Emperor Meiji.

Mori put special emphasis on teacher training as the key to education for a modern nation. He introduced a military type of program to train elementary school teachers, which emphasized obedience, affection and dignity. An ordinary normal school was to be established for each prefecture for the training of elementary school teachers. The applicants were selected on the basis of the recommendation of the heads of local administrative units, and upon graduation they were to be employed at the schools under them [Morikawa 1989: 60]. This model of teacher training remained until World War II.

At this point, some comparisons may be made on the efforts of the two governments in educational development. In particular, their efforts in developing mass education.

First, regarding policy. The Meiji leaders considered mass education to be essential for building a rich and strong nation from the beginning. They made every effort to establish a compulsory educational system even though the people and the government were not yet financially ready for it. In Thailand, however, even at the end of the period of King Rama V, some high ranking officials still expressed their doubt about the necessity for common people to be literate.

1) It should be noted that in the Education Orders before 1886, there was no strict enforcement of compulsory education. According to the 1872 Educational System Order, children were *expected* to attend elementary school throughout the 8-year school age, from 6 to 14 years; in the 1879 Education Order, it was defined as a *responsibility* of parents and guardians to send their children to school for the respective minimum periods specified by the Orders, but this "responsibility" was not regarded as strictly legal responsibility. It was the 1886 Elementary School Order that specified that "in the case of children of the 8 years of school age from 6 to 14 years, the parents and guardians of such children have the *obligation* to see that their children receive general education." Thus the 1886 Elementary School Order constituted the first system for strict compulsory education [Ministry of Education 1980: 99–100].

Second, regarding educational finance. The Meiji leaders solved the financial problem by assigning the burden to the local government and the parents. In Thailand, the 1898 abortive scheme of education had proposed that tuition fees should be collected at the middle and higher level of education, but public elementary education should be free. It also proposed a tax system to finance education in Bangkok and asked the permission of the Ministry of Finance to carry it out [Organizing Committee for Celebrating 1968: 220, 236]. In the reign of King Rama VI, tax on education (*suksa plee*) was experimented on all males for a short period. In spite of tight budget, one fifth of the Department of Education budget was appropriated to "Ratchawitthayalai School" or "King College" which was set up for educating a small number of children of the royal family and high ranking officials [Wyatt 1969: 185–187].

Thirdly, regarding teachers. While the role of teachers in modern education received much attention in Japan and efforts were made to create qualified teachers, no comparable efforts were made in Thailand. Although teacher training schools were established in 1892, it produced only 20 graduates in six years [*ibid.*: 150–151]. The school failed to attract students although it had well-qualified European teachers and granted monthly stipends to its students. The teaching career in public schools was not considered as lucrative as the administrative career in governmental offices, which was not difficult to start in view of growing governmental tasks. Even now, the teaching career remains low in the ranking of bright Thai students.

2. *The Development of Secondary and Tertiary Education*

In Thailand secondary schools were set up in 1895, but only in Bangkok. Secondary education was divided into two levels, lower and upper. Each level took three years. There were five schools for boys and three schools for girls offering special secondary courses. For ordinary secondary courses, there were four schools for boys, and only one school for girls [Boontham 1978: 50, 76]. Vocational education was organized by various governmental offices in the so-called "special schools" in order to provide manpower with the kind of skills required to work in those offices. According to Wuttichai, the total number of graduates from these schools between 1906 to 1911 were only 2,200, with over 85 percent from cadet schools [Wuttichai 1973: 170]. During the reign of King Rama V there were also a number of specialized higher institutes, such as, medical schools, teacher training school, and law school. These institutes later became various faculties of Chulalongkorn University in the next reign.

In Japan secondary education was systematically organized after the enactment of the Middle School Order in 1886. It was divided into two stages, ordinary secondary (five years) and higher secondary (two years). It was first limited to boys, and later in 1899 the Girls High School Order was issued which authorized the establishment of at least one girls' high school for each prefecture. The Vocational School Order was promulgated in 1899 as part of the development of secondary education. Its objective was to provide education necessary for those who wanted to work in industry and agriculture. The following types of vocational school were set up; technical, agricultural, commercial, merchant marine, and vocational supple-

Table 4 Japan: Summary of Educational Statistics, 1910

	Schools	Students	Teachers
Primary school	25,910	6,851,718	152,011
Secondary school for boys	302	122,345	5,902
Secondary school for girls	193	56,239	2,913
Vocational school – grade A	203	40,619	2,613
– grade B	274	24,120	1,455
Vocational supplementary school	6,111	262,978	

Source: [Japanese National Commission for Unesco 1966: 75]

mentary schools. The vocational supplementary schools were established as early as in 1893 as schools for the working youth. In 1910, there were 302 secondary schools for 122,345 boys, 193 high schools for 56,239 girls, and 477 vocational schools for 64,739 students. In the same year, the numbers of teachers were 8,815 and 4,068 for secondary and vocational schools respectively (see Table 4).

University education was considered important for training leadership in society. The first university in Japan, the University of Tokyo, was set up in 1877 by combining the existing institutions of higher learning set up during the Tokugawa period, namely Shohei School, Kaisei School (formerly the institute for Investigation of Foreign Writings), and Medical School. The university consisted of four faculties: law, science, literature, and medicine. It was renamed "Imperial University" under the Imperial University Order issued by Mori in 1886. The purpose of university education, according to the Order, was "to teach academic subjects to meet the requirement of the country." The graduate school, the college of technology, and the college of agriculture were formed and incorporated. After the establishment of the first imperial university, four more imperial universities were established in Kyoto (1897), Tohoku (1907), Kyushu (1910), and Hokkaido (1918). Later two more imperial universities, Osaka and Nagoya were established in 1931 and 1939 respectively. Besides these imperial universities, various national, prefectural and private colleges were set up to accommodate the increasing number of secondary school graduates who wanted to receive more education. In 1904 there were 8 national colleges, 3 municipal medical colleges, and 38 private colleges. Altogether the number of students were 24,081. Many new vocational colleges were established and various existing vocational schools were also turned into colleges during this period. These higher schools produced a large number of business and industrial leaders [Japanese National Commission for Unesco 1966: 84–85].

3. *Sending Students Abroad*

Both the Thai and Japanese governments saw the necessity of sending students abroad and employing foreign teachers within the country. The Japanese government spent around 10.6 percent of the budget of the Department of Education during 1872–73 for sending students abroad, despite financial difficulties. Since 1882, the Japanese government set the rules of

selecting students for studying abroad. This investment was possibly worthwhile, as can be seen from the fact that the Japanese students could replace the foreign teachers almost entirely within the reign of Emperor Meiji. Most of them worked for the government when they returned. The other major contribution of returning students was their role as social critics or instigators of reform [Burks 1985: 156].

In contrast, Thailand was much less successful with students sent abroad. Due to the unsystematic process of selecting students and their insufficient academic background, Thai students in general spent many more years than the Japanese students abroad. In many cases, the investment proved to be a failure since the things the students studied abroad were not relevant to the Thai economy [La-oo-thong 1979]. There were, of course, some successful ones who contributed to the progress of the Thai economy. However, in view of the vast majority of population still being illiterate, the Thai government might have spent too much money on sending students abroad.

D. *The Interaction between Education and Economic Development*

Education process creates a more knowledgeable person who, given certain favorable conditions, should be able to contribute to economic growth. As the economy expands, it creates more economic opportunities and induces further investment in education from both public and private sectors. This causal process is expected to be strong in the society where learning is highly valued, but it also prevails in society where learning culture is weak.

In discussing the interaction between education and economic development in the two countries, we will look into the changes in their economic structures until the end of the reign of King Rama V and Emperor Meiji. In doing so, we will focus on the role of the government and the nature of response from the private sector in education and economic development.

In Thailand, the opening of the country had changed Thailand from a subsistence rice growing into a more specialized rice-exporting economy. An increase in the production of rice came mainly from the expansion of cultivated area using traditional technique. Although the volume of rice export increased, the price was low due to the low quality of Thai rice. The government encouraged the selection of new strains of rice by organizing rice strain contests, but they were not carried out regularly and eventually discontinued [Chermarn 1982: 76–103]. There was no big irrigation project, only some encouragement of canal-digging for expansion of cultivated area.

It has been argued that one reason why no technological improvement of rice production was the Thai government's policy of inducing Chinese immigrants [Ingram 1971: 210–212]. Chinese immigrants were hired for the construction of public projects that required laborious work such as canal and railway building. The increase in the supply of Chinese labor thus forced market wages to remain low and made them unattractive to induce the Thais to leave their rice farms for other activities. Ingram argued that if the wages had been attractive enough, the loss of manpower in agriculture might have induced farmers to use more capital and hence improved their techniques. Similarly, the employers in trade and industry might

have had to develop a more labor-saving method. However, Ingram himself doubted the Thais' willingness to leave their farms and engage in business since in his opinion the cultural resistance was very strong [*ibid.*: 212].

At this point we would like to argue that cultural restraint would not have been a big problem, but it was the limited job opportunity and the unreadiness of Thai peasants that made the movement out of farms difficult. The first one was that the employers, either Chinese or Westerners, would prefer to hire the Chinese who were known to be hard working and more self-disciplined than the Thais. However, if job opportunity had been available, the cultural restraint would not have been a barrier for the Thai farmers to leave their farms as could be seen from a large number of rural-urban migration in the 20th century. We could also see that in the late 20th century when job opportunities were available outside the country, Thai workers were also willing to go.

The second one has something to do with the farmers themselves. Without much opportunity to obtain gainful employment outside the farms, the farmers did not have incentives for schooling and training. For example, farmers in the Burirum province responded poorly to government program in 1908 which was designed to train farmers to produce raw silk and engaged in silk-weaving [Chermarn 1982: 76–103]. Hence, they lacked schooling and training which might help them in moving out of the farms more easily.

The lack of seriousness in government in improving agricultural production, and the poor conditions of formal education together with the lack of interest in learning of Thai farmers would probably explain why production techniques in rice cultivation and other cottage industries remained static for a long time.

While the production of rice was in the hands of Thai farmers, other businesses relating to rice export were in the hands of the foreigners. The buying of rice from farmers was in the hands of Chinese merchants. The rice mills were operated by the Chinese and the Europeans. There is some new evidence using the 1883 Bangkok Postal Census which showed that the Thais in Bangkok were also engaged in marketing, commerce, manufacturing, and professional work [Porphant and Tsubouchi 2000: 67]. However, for the whole country, the proportion of the Thais engaged in non-rice farming activities at that time was small.

Besides rice, there were two other major exports, namely tin and teak. The combined values of these two items during the period from 1890 to 1910 amounted to 16 to 22 percent of the total exports of the country (see Table 5). This indicated that the Thai economy at that time depended heavily on rice export.

As mentioned earlier, the Chinese in Thailand were more interested in getting education than the Thais. They attended missionary schools and learned the English language, which helped them to enter the international business activities with the support of Chinese networks. We may conclude at this point that the opening of the country generated more benefits to the foreigners, Chinese as well as Westerners, than the native Thais. The elite or the educated Thais were not interested in business since most of them were not trained for that purpose. Besides there were many job opportunities in the government sector which were

Table 5 Thailand: Export of Major Products as Percentage of Total Exports

	Rice	Teak	Tin
1867	41.1		15.6
1890	69.7	5.5	11.1
1903	71.3	10.4	6.4
1906	69.1	11.2	11.0
1909/10	77.6	6.4	7.8

Source: [Ingram 1971: 94]

considered more prestigious and secure. As for investment, the owner of large capital funds, the Privy Purse Bureau, was more interested in the area that could yield quick returns such as building "row" houses for rent along the newly constructed streets, or lending money on mortgage terms [Porphant 1999: 12–14]. There was no big industrial investment projects taken by the private sector.

We might want to question at this point if the Thai government or a private entrepreneur wanted to invest in industrial project, would it be possible to do so. It could be easily seen that the lack of skilled manpower was a main obstacle besides lack of capital resources. Then, did the Meiji government face a similar problem in its industrialization attempt, and how did it solve the problem? As mentioned earlier the new Meiji government inherited a much better educated population than the Thai counterpart upon entering the modernization period. The leaders in the government were more serious in establishing the full educational system. The government carefully laid down the foundation of education by firstly emphasizing elementary education for the mass, then followed by the middle and the higher levels of education. However, elementary education continued for decades to absorb three-fourths of all public expenditures on education, while secondary education, including its vocational training component, received barely 4 to 5 percent. Even as late as the 1920s, elementary education still accounted for two-thirds of the total [Levine and Kawada 1980: 95]. In manpower training skills required for industrialization and modern business sector, the government took the leading role in investment and introduced modern plants to demonstrate the new way of production and management to the private sector. At the beginning, foreign experts were employed and were utilized for training the Japanese employees. For the first two decades, the government and its agencies virtually used the method of training employees within the government-owned enterprises. After the government sold these enterprises to the private sector in the 1880s, the training functions for modern industry were also transferred to the private enterprises as well.

Skilled manpower required for industrialization was also provided by formal educational institution. In 1881, the government established the Tokyo Trade School for the training of factory managers and foremen. In 1894, an institute for the training teachers in industrial arts was created and followed by more engineering departments in many schools of technology. In general, there was a rapid expansion in high-level technological education in many parts of Japan after the turn of the century. In addition, vocational education also expanded greatly

when teachers of industrial arts became more readily available in response to a rapid increase in demand mostly for children of poorer families.

The success of the economic development during the Meiji era also owed a great deal to the nature of the private sector. The social and business leaders in the Meiji period were largely the products of the Tokugawa educational system. They were mostly samurai who were inculcated with the Confucian ethic which attached importance to learning. Many of them had the opportunity to study Western sciences and ideologies and gained new perspectives as well. After the Meiji Restoration, this class lost many of their social and economic privileges due to a series of reforms. As a result, they moved into newly opened modern occupations such as teaching, government service, and business. Some preferred to be social critics to influence public opinion. These were people who devoted themselves to the development of their country. At the lower level, merchants, farmers, and artisans were taught that they could improve their lives by taking advantage of new opportunities, and acquired basic skills. Japan has always been a society that valued learning highly. The new societal environment opened opportunity for all of them to move upwards in status through education. As the economy developed, an increase in household income enabled Japanese families to invest more in education for their children. Their demand could not be fully satisfied by the public sector so that the private sector was also induced to provide education. The participation of the private sector and the careful guidance of the government sector made it possible for Japan to reach the economic take-off stage within the Meiji era.

IV Concluding Remarks

In tracing back the history of education and economic development of Japan and Thailand, the followings were observed:

1. There were fundamental differences between the two countries in the period prior to the opening of the countries to Western powers. The economy of Japan was more diversified and changes took place in various sectors. In the agricultural sector, farmers knew the technique of seed selection, used fertilizer, and controlled water through an irrigation system. An overwhelming majority of the Thai population were farmers ruled by a small number of government officials. The gap between the two classes in Thailand was filled by Chinese immigrants who performed the function of traders, artisans and laborers. On the other hand, there was no such racial division of labor in Japan.

Regarding education, the central as well as the domain governments of Japan during the pre-modernization period had the responsibility to educate their ruling class, the samurai, with the purpose of inculcating loyalty and teaching skills needed for them to perform governmental function. Many commoners received their education through a large number of private schools. Besides, there were also some private institutions which taught Western sciences with government support. On the contrary, the Thai government placed the role of teaching children in the monasteries which emphasized moral teaching rather than the three R's. Most

of the Thai farmers living in remote rural area were thus illiterate. A few noble Thais had some exposure to Western sciences through association with the missionaries, but no serious effort was made to encourage the spread of Western knowledge.

2. After the opening of the countries forced by the Western powers, both Thailand and Japan saw modernization of their countries as a means to protect their independence. Great political change occurred in Japan which caused an end to the old Tokugawa regime and restored the power to the Emperor. The new leaders in the Meiji government pursued economic development and military build up as their top priority. Education was utilized as a means to achieve these goals. As early as in 1886, the Meiji government promulgated school orders for all levels of education, namely the elementary school, the middle school, the imperial university and the normal school, which became the core of the educational system. The Meiji government was able to impose a four-year compulsory education at elementary level in 1886 and provided it free in 1900, extending it to six years in 1907. As industrialization developed, there was more demand for technicians and this led to the expansion of technical education at vocational and higher levels. The private sector also played an important role in supplying educational services. Therefore, the formal educational system was firmly established during the Meiji period and provided a solid background for economic development since then.

The Thai government, on the contrary, faced an acute shortage of manpower in the government sector. The establishment of the school system for the mass faced many problems such as personal conflicts besides the lack of resources. The basic education for the commoners was mainly carried out in the temples with monks as teachers as in the previous reign but with a more systematic pattern. The problem of teaching at higher level faced a shortage of teachers since the teacher-training program turned out to be unsuccessful. The government put some effort in sending students abroad. However, the process of selection and the insufficient academic background of most students made the number of successful graduates extremely low. After the opening of the country, some reforms were introduced but did not create any fundamental change in the economic life of Thai people. The benefits from increasing trading opportunities fell mainly into the hands of foreigners, the Chinese as well as the Europeans. Since these foreigners did not intend to stay forever in the country, no long-term investment took place. The role of the government in economic activities was limited by its insufficient resources due to the limited taxation power (e.g. import duties were restricted to 3 percent) and the lack of capable officials to initiate good investment projects. Besides, government leaders tended to give favorable consideration to the projects that yielded short term benefits. Although the Thai economy might seem to have developed some modern characteristics, agriculture remained the backbone of the Thai economy. There was hardly any industrialization in this period.

3. The purpose of this paper is to illustrate the importance of investment in education by using Japan and Thailand as case studies. It has shown that investment in basic education for

the mass is essential for the growth of the economy. If the majority of population are left to be illiterate, overall national progress cannot go far. Looking back into history, we can see the difference in the seriousness of the government leaders of the two countries in working out the educational system. The Thai government leaders did not have to be serious because the people did not demand education much due to the lack of interest, weak learning culture, and limited employment opportunity with education. However, the lack of seriousness of the Thai government in education was partly because the Thai leaders had more pressing problems to deal with. The central government put more effort on the centralization of political power for fear of loosing control of the periphery to the Western powers. Education therefore had lower priority than national security.

Japan started its modernization in a better condition than Thailand. Japanese leaders made serious effort to develop education as a tool for economic development. Japan might be considered successful in achieving its goal of economic development and even followed its Western role models by hunting for its own colonies, but, there was also a negative side of economic development of the Meiji era that deserves attention, for example the suffering of small farmers who lost their land, the hardship of female workers in the urban factories, and the destruction of natural environment, etc. [see for example Oshima 1965: 353–389; Yoshihara 1994: 174–192]. The case of Japan may serve as a good lesson for developing countries, that is unless basic education for the mass is solid, the economic development of the whole country cannot go very far. The task of education and economic development also requires serious effort and strong determination on the part of leaders, both in government and private sectors, to work together for the sake of their own national prosperity.

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